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*Northeastern Area*  
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**FOREST PEST MANAGEMENT**



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Shoot blight of red pine ("Deerskin droop") attributed to Sirococcus strobilinus Pruess.

By James T. O'Brien

The cause of a shoot blight of red pine in the Lake States ("Deerskin droop") may now be ascribed to the fungus Sirococcus strobilinus Pruess. S. strobilinus has been recorded as a cause of damage to spruce, fir and pine in Europe since 1890 (Hartig) and the U. S. since 1914 (Graves). Most damage has occurred in nurseries, but serious injury to 20-60 year old spruce in Germany (Rudolph 1898) and advanced hemlock reproduction in Alaska (Funk 1972) has been reported. The shoot blight of red pine was first noticed in 1959 in northern Wisconsin (Nicolet National Forest) and has since been found in northern Minnesota and Upper Michigan (O'Brien, 1972).

On red pine, as on other tree species, S. strobilinus kills the current shoots. Usually not all shoots on a tree are killed in a single year, but the injury is cumulative. The lower branches of infected large trees die first, and the symptoms usually advance further upward each year. These trees may eventually be killed. Small trees beneath infected large trees are also killed, and reproduction is therefore curtailed. Intensity of the disease within affected stands has greatly increased in the past 2-3 years.

The disease can spread during periods of wet weather when the spores of the fungus emerge from tiny fruiting bodies called pycnidia (Hartig, 1890). The pycnidia are found on needles beneath the sheaths and on the stems of shoots killed earlier, probably the previous year. The nature of the spores would indicate they are not wind-borne in the usual sense, but are carried about in raindrops or dew. They can, no doubt, be blown a considerable distance - perhaps 100' or more from a tall tree - during storms. Possibly the spore-laden raindrops are thrown upward from infected branches to the healthy branches on large trees as the branches are tossed about in the wind.

It is possible to control the disease in nurseries by using one of several chemicals (Smith, et al, 1972). However, there has been little investigation of methods of control for plantations and older stands, and research is needed before recommendations can be formulated.

Literature Cited

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